

REMARKS

Claims 1-19, and 23-24 were previously canceled. Claims 30, 36 and 52 are canceled herein. Claims 20-22 and 25 are withdrawn from consideration. Claims 20 and 21 are currently amended herein relative to the immediate prior version in the Amendment filed on September 3, 2003. Claims 26-29, 31-35, 37-51 and 53 are amended herein. Support for the amendments to the claims can be found, for example, in the original claims and in the original specification on page 2, lines 4-11, page 4, lines 26-31, and page 5, line 9 to page 6, line 2. Hence no issues of new matter are presented. Upon entry of the Amendment claims 20-22, 25-29, 31, 35, 37, 51 and 53 will be all of the claims pending in the application.

Applicants acknowledged acceptance and entry of the Substitute Specification filed on September 3, 2003.

Applicants acknowledge the withdrawal of the previous rejections under 35 U.S.C. § 102 and 35 U.S.C. § 103 and other rejections under 35 U.S.C. § 112, 1st and 2nd paragraphs and objections that are not repeated in the Office Action dated November 14, 2003.

I. Response to Claim Objections

Claim 27 is objected to because of the apparent misspelled word “doughis”.

Claim 27 is amended herein to correct this inadvertent typographical error, thereby obviating the objection.

Accordingly, Applicants respectfully request withdrawal of the objection.

Claims 27-30, 33, 36-39 and 41-43 are objected to because of the repeated indication of the deposit address.

Claims 30 and 36 are canceled herein and therefore the objection as to these claims is rendered moot. Claims 27-29, 33, 37-39 and 41-43 are amended herein to delete the recitation of the street address of the depository for the subject strains in the present application, thereby obviating the objection.

Accordingly, Applicants respectfully request withdrawal of the objection.

II. Response to Claim Rejections under 35 U.S.C. § 101

Claims 26-40 and 47-53 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Specifically, the Examiner states that the claims are directed to a baker's yeast strain that could be present in nature. The Examiner suggests that Applicants amend the claims to recite "an isolated/recombinant baker's yeast"

Claims 30 and 36 are canceled herein and therefore the rejection as to these claims is rendered moot. Claims 26-29, 31, 33 and 37-40 are amended herein as suggested by the Examiner, thereby obviating the rejection. Claims 32, 34, 35 and 47-53 depend from at least one of 26-29, 31, 33 and 37-40 and therefore the rejection as to these claims is obviated for at least the same reason.

Accordingly, Applicants respectfully request withdrawal of the rejection.

III. Response to Claim Rejections under 35 U.S.C. § 112, 1st Paragraph

Claims 26-30, 32-37 and 47-53 are rejected under 35 U.S.C. § 112, 1st paragraph under 35 U.S.C. § 112, 1st paragraph as being non-enabled by the specification for any yeast strain having "good general performance in bread-making processes", "resistant to stress caused by freezing" and that does not produce "bad taste or off-flavors". The Examiner indicates that the

specification is enabling for the CNCM I-2421 yeast strain, CNCM I-2422 and yeast strains having a complete deletion of the PAD1 gene.

Claims 30 and 36 are canceled herein and therefore the rejection as to these claims is rendered moot.

The remaining claims are amended herein to refer to a yeast strain selected from the group consisting of isolated/recombinant yeast strains deposited under the numbers CNCM I-2421 and CNCM I-2422 and yeast strains having a complete deletion of the PAD1 gene. The term “good general performances” is defined in the claims as being determined by gas release test results according to fermentometer tests A₁, A₅ and A₆ carried out with a Burrows and Harrison fermentometer as described in the original specification on page 2, lines 4-11.

In regard to the phrase “bad taste or off-flavors in the presence of cinnamon”, Applicants respectfully submit that it is disclosed in the present specification that the “bad taste or off-flavors”, which are determined by a jury, are caused by the decomposition of cinnamic acid, and can be confirmed by objective analysis as determined by the presence of cinnamic acid and/or the presence of styrene in a solution fermented in the presence of cinnamic acid. See the original specification on page 5, line 29 to page 6, line 2. Further, on page 6, lines 3-18 of the original specification, methods of detecting cinnamic acid and styrene using chromatographic methods are described. Thus, one of ordinary skill in the art is sufficiently apprised of how to practice the claimed invention.

In view of the above, Applicants submit that the claimed invention is sufficiently enabled and based on the knowledge, skill level and nature of the art, the description provided in the

specification as originally filed, the tests and examples provided and the level of predictability in the art with respect to the use and performance of baker's yeast in bread making processes and in view of the deposit of the recited strains CNCM I-2421 and CNCM I-2422, one of ordinary skill in the art is provided with sufficient guidance to make and use the claimed baker's yeast product without undue experimentation. In this regard, Applicants respectfully submit that the fact that experimentation may be required is not dispositive of enablement as long as the required experimentation is not undue.

Accordingly, Applicants respectfully submit that the presently claimed invention is sufficiently enabled by the specification and request withdrawal of the rejection.

IV. Response to Claim Rejections under 35 U.S.C. § 112, 2nd Paragraph

Claims 41-43 are rejected under 35 U.S.C. § 112, 2nd paragraph as being indefinite for being directed to a method or process and failing to set forth method steps. The Examiner suggests that amending claims 41-43 to incorporate the subject matter of claims 44-46, respectively, to obviate the rejection.

Claims 41-43 are amended herein to recite the step of cultivating a starting strain in a cultivation process for manufacturing a baker's yeast product, thereby obviating the rejection. Claims 44-46, provide additional steps for the cultivation of the starting strain and properly depend from claims 41-43, respectively.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 27-31, 41-43 and 47-48 are rejected under 35 U.S.C. § 112, 2nd paragraph as being indefinite with regard to the recitation of the phrase “starting strain”. It is the Examiner’s position that it is unclear whether the “starting strain” is the strain that is being mutated to achieve the claimed strain or if the “starting strain” is the claimed strain.

Applicants respectfully submit that the “starting strain” is the claimed isolated and/or recombinant strain and is used as the “starting strain” in a cultivation process for the production of a baker’s yeast product. Thus the claims are amended herein to recite “a baker’s yeast product” which is obtained by a cultivation process for the manufacture of said baker’s yeast product, by cultivating an isolated and/or recombinant yeast strain of the present invention to clarify the claimed invention, thereby obviating the rejection. Claim 30 is canceled herein and therefore the rejection as to this claim is rendered moot.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 27, 47 and 48 are rejected under 35 U.S.C. § 112, 2nd paragraph as being indefinite and incomplete for omitting an essential step required to obtain the control yeast. The Examiner further states that the incorporation by reference of Reed et al is improper since the process for obtaining the control yeast is essential to practicing the claimed invention.

Applicants respectfully submit that the control yeast is sufficiently described in the present specification such that one of ordinary skill in the art would know the meaning and scope of the claim and be able to practice the claimed invention. Specifically on page 2 of the specification, lines 18-21, it is disclosed that the control yeast is produced according to a conventional process starting from the CNCM I-2412 strain, which is representative of the

strains commonly used in the U.S. for the manufacture of baker's yeasts. Further, it is disclosed that a conventional process of baker's yeast manufacture is a process described in Chapter 6: "Baker's Yeast Production" of the handbook "Yeast Technology", Second Edition, Reed and Nagodawithana, 1991, in which the fermentation process is generally described on pages 284-291.

In addition, it is disclosed in the specification that the control strain and the tested strains were cultivated on cane molasses using the scheme described in Example 3 of U.S. Patent No. 5,741,695, the entire disclosure of which is incorporated by reference. See page 4, lines 19 and lines 26-29 of the original specification. Thus, the claims have been amended to recite that the control yeast is produced by a cultivation process for manufacturing said control yeast by cultivating an isolated strain deposited as CNCM I-2412. Further, the specification is amended to include the scheme for cultivating the control strain as disclosed in U.S. Patent No. 5,741,695, which is properly incorporated by reference.

In view of the above, Applicants submit that the process for obtaining the control yeast is sufficiently defined in the specification, as amended, such that when the claims are properly read in light of the present specification, one of ordinary skill in the art is apprised of the meaning and scope of the claimed invention.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 28-31 and 36 are rejected under 35 U.S.C. § 112, 2nd paragraph, as being indefinite for reciting that the yeast strain is "obtained by a process" without reciting method steps relating to the process.

Claims 28, 29 and 31 are amended to clarify that the process is a cultivation process comprising cultivating an isolated and/or recombinant yeast strain of the invention, thereby obviating the rejection. Claims 30 and 36 are canceled and therefore the rejection as to claims 30 and 36 is rendered moot.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 26-37 and 47-53 are rejected under 35 U.S.C. § 112, 2nd paragraph, as being indefinite relating to the recitation of the terms “good general performances” and “bad taste and off flavors” in claims 26 and 37; and the term “similar” in claims 30, 33, 36-37 and 43, for the reasons of record.

In response to the arguments presented in the Amendment filed on September 3, 2003, the Examiner states that the term “similar” is a relative term and one of ordinary skill could not reasonably ascertain how similar a strain must be to a reference strain in order to be considered within the scope of the claimed invention. The Examiner states that the desired properties of “good general performances” and no “bad tastes or off flavors” of the reference strains are themselves indefinite and would therefore be indefinite in the context of “similar strains”.

Further the Examiner states that a test to determine if a given strain has a particular performance is not a definition of “good general performance”. The Examiner also states that a method to identify a strain is not a method to make a strain. Furthermore the Examiner states that the term “good general performance” is a relative term as discussed previously.

The Examiner also maintains that the term “bad taste and off-flavors” is a subjective term even in the context of the definition in the specification on page 5-6 of the specification, which discloses that a jury determines the presence or absence of “bad taste and off flavors” because the composition of the jury would greatly influence the outcome of the test.

Applicants respectfully submit that the claims as amended do not recite “similar” strains.

Applicants respectfully traverse the rejection with respect to the terms “general good performance” and “bad taste and off flavors” and submit that the terms are adequately defined in the specification such that when properly read in light of the specification, one of ordinary skill in the art is readily apprised of the meaning and scope of the claim language for the reasons submitted in the Amendment filed on September 9, 2003.

Particularly with respect to the term “general good performance” it is disclosed that good general performance relates to gas release results which are measured by a Burrows and Harrison fermentometer in fermentometer tests A₁, A₅ and A₆ and the results leading to good general performance are disclosed on page 2, lines 6-11 of the original specification. Thus, the specification provides a standard for determining “good general performance” such that one of ordinary skill in the art would be reasonably apprised of the scope of the invention. The Examiner did not address this point in the response to the arguments presented in the Amendment filed on September 3, 2003. However, in an effort to expedite and facilitate prosecution, the claims are amended herein to recite that “good general performance” is determined by gas release results based on fermentometer tests A₁, A₅ and A₆ carried out by a Burrows and Harrison fermentometer.

Similarly with respect to the term “bad taste and off-flavors”, it is disclosed in the original specification that the property of not giving rise to “bad taste or off-flavors” is essential for a baker’s yeast product and must be verified in any bread making process wherein a baker’s yeast product is intended to be used. Page 2, lines 1-3. Thus, those of ordinary skill in the art are familiar with the practices and procedure for determining whether such “bad taste and off-flavors” exists and it is well within the level of skill of the ordinary artisan.

In the course of the process according to the claimed invention, yeast strains may be created that lead to an abnormal or off taste in bread and the corresponding yeast strain is discarded. This occurrence of abnormal or bad taste and off-flavors in bread is due to the production by the yeast affected of one or more secondary metabolites in the bread dough. In this case, as disclosed in the specification, bad taste or off-flavors in the presence of cinnamon are caused by the decomposition of cinnamic acid.

The most appropriate adjectives for qualifying the objectionable tastes and/or smells, which, if detected in bread, lead to the rejection of the corresponding yeast strain, are:

- abnormal, and, in particular
- off (meaning: “in bad condition; wrong, abnormal, odd; spec. . . .(b) (of food) stale, sour, beginning to decay, contaminated”; see The New Shorter Oxford English Dictionary, 1993 Ed.)

These terms are not descriptive of personal preferences and dislikes but are used to refer to characteristics or properties that are alien to the normal product in the context of the art of

bread making. For example, the question of whether milk is “off”, is a question of fact and not a question of personal preferences or dislike of sour milk.

A taste or smell is “bad”, “abnormal” or “off” if consumers, as a collective entity, would consider the taste or smell to be abnormal, i.e., alien to the taste or smell of the same type of bread when produced with an industrial baker’s yeast strain. Likewise, the person skilled in the art knows the smell and taste profiles of bread types and is able to detect an abnormal or off taste in a bread product, which is alien to the type of bread product.

Further, tests are disclosed for determining the existence of “bad taste and off-flavors” which consist of comparison of the odor of a solution fermented without cinnamic acid with that of a solution fermented in the presence of cinnamic acid. It is disclosed that this test of comparison of odors is based on the notes given by a jury. It is further disclosed that these notes can be confirmed by analysis of the decomposition rate of cinnamic acid by the determination of the cinnamic acid still present at the end of the test and/or by the determination of styrene present in the solution fermented in the presence of cinnamic acid, which can be determined by chromatographic methods known to those of ordinary skill in the art as described. See page 5, line 27 to page 6, line 18. The Examiner did not address this point in the response to the arguments presented in the Amendment filed on September 3, 2003. Thus, when properly read in light of the specification, one of ordinary skill in the art would be apprised of the scope of the claimed invention.

Accordingly, Applicants respectfully request withdrawal of the rejection.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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